AMENDMENTS TO THE CLAIMS

Amendments to the claims are reflected in the following listing of claims, which replaces all prior versions and listings of claims.

1. (Currently amended) A method of screening colon tissue for colon cancer, said method comprising:

measuring (prospero homeobox protein 1) Prox-1 expression ~~or activity~~ in a biological sample that comprises colon tissue from a ~~mammalian~~ human subject, and

screening for colon cancer from the measuring of the Prox-1 expression ~~or activity~~, wherein elevated Prox-1 expression ~~or activity~~ detected in the colon tissue compared to Prox-1 expression in healthy colon tissue correlates with the presence of colon cancer in colon tissue.

2. (Canceled)

3. (Currently amended) A method according to claim [[2]] 1, further comprising a step, prior to said measuring step, of obtaining the biological sample comprising colon tissue from ~~a mammalian~~ the human subject.

4. (Previously presented) The method according to claim 1, wherein the measuring comprises measuring Prox-1 expression in the colon tissue.

5. (Previously presented) The method according to claim 1, wherein the measuring comprises measuring Prox-1 protein in the biological sample.

6. (Original) The method of claim 5, wherein the measuring comprises contacting the colon tissue with a Prox-1 antibody or antigen-binding fragment thereof.

7. (Previously presented) The method of claim 1, wherein the measuring comprises measuring Prox-1 mRNA in the colon tissue.

8. (Original) The method of claim 7, wherein the measuring comprises *in situ* hybridization to measure Prox-1 mRNA in the colon sample.

9. (Original) The method of claim 7, wherein the measuring comprises steps of isolating mRNA from the colon tissue and measuring Prox-1 mRNA in the isolated mRNA.

10. (Previously presented) The method according to claim 1, wherein the measuring comprises quantitative polymerase chain reaction (PCR) to quantify Prox-1 mRNA in the colon tissue relative to Prox-1 mRNA in healthy colon tissue.

11. (Currently amended) A method according to claim 1, further comprising measuring expression ~~or activity~~ of at least one gene selected from the group consisting of cluster of differentiation 44 (CD44), ectodermal-neural cortex protein 1 (Enc1), and inhibitor of DNA binding 2 (ID2) in the colon tissue, and screening for colon cancer from the measuring of the Prox-1 expression ~~or activity~~ and from the measuring of the expression ~~or activity~~ of the at least one gene, wherein elevated Prox-1 expression ~~or activity~~ and elevated expression ~~or activity~~ of the at least one gene in the colon tissue correlate with the presence of colon cancer in colon tissue.

12. (Currently amended) A method according to claim 1, further comprising measuring activation of β-catenin/TCF pathway in the colon tissue, and screening for colon cancer from the measuring of the Prox-1 expression ~~or activity~~ and from the measuring of activation of β-catenin/TCF pathway, wherein activation of the β-catenin/TCF pathway and elevated Prox-1 expression ~~or activity~~ in the colon tissue correlate with the presence of colon cancer in the colon tissue.

13. (Original) A method according to claim 12, wherein activation of the β-catenin/TCF pathway is measured by at least one indicator in the colon tissue selected from the group consisting of: mutations in an APC gene; mutations in a β-catenin gene; and nuclear localization of β-catenin.

14. (Canceled)

15. (Currently amended) A method according to claim [[14]] 1, further comprising a step of administering to a human subject identified as having a colon cancer

characterized by increased Prox-1 expression ~~or activity~~ in colon tissue a composition comprising a Prox-1 inhibitor.

16. (Canceled)

17. (Withdrawn/Currently amended) A method of inhibiting the growth of colorectal cancer cells in a ~~mammalian~~ human subject comprising the step of:

administering to the subject a composition comprising a molecule that suppresses expression ~~or activity~~ of Prox-1, thereby inhibiting the growth of colorectal cancer ~~colon carcinoma~~ cells.

18.-20. (Canceled)

21. (Withdrawn) The method according to claim 17, wherein the composition further comprises a pharmaceutically acceptable diluent, adjuvant, or carrier medium.

22. (Withdrawn) The method according to claim 17, wherein the molecule comprises a nucleic acid selected from the group consisting of an antisense oligonucleotide that inhibits Prox-1 expression; micro-RNA that inhibits Prox-1 expression; short interfering RNA (siRNA) that inhibits Prox-1 expression; and short hairpin RNA (shRNA) that inhibits Prox-1 expression.

23.-24. (Canceled)

25. (Withdrawn) The method or use of claim 22, wherein the siRNA comprises at least one nucleotide sequence set forth in SEQ ID NOS: 4, 5, 6, and 7.

26. (Withdrawn) The method of claim 17, wherein the molecule comprises a zinc finger protein that inhibits Prox-1 expression.

27. (Withdrawn) The method of claim 17, wherein the molecule comprises a dominant negative form of Prox-1 protein, or an expression vector containing a nucleotide sequence encoding the dominant negative Prox-1 protein.

28. (Withdrawn) The method of claim 27, wherein the dominant negative form of Prox-1 protein has a disrupted DNA binding domain.

29. (Withdrawn) The method of claim 27, wherein the dominant negative form of Prox-1 protein has a disrupted transactivation domain.

30. (Canceled)

31. (Withdrawn/Currently amended) The method according to claim 17, wherein the composition is administered in an amount effective to suppress Prox-1 expression ~~or activity~~ and increase Notch 1 signaling.

32. (Canceled)

33. (Withdrawn) The method according to claim 17, wherein the composition is administered in and amount effective to increase 15-PDGH activity or decrease prostaglandin D2 synthase activity.

34. (Withdrawn) The method according to claim 17, further comprising administering to the subject an inhibitor of the β-catenin/TCF signaling pathway.

35. (Canceled)

36. (Withdrawn) The method of claim 34, wherein the inhibitor of the β-catenin/TCF signaling pathway is dominant negative form of TCF-4.

37. (Withdrawn) The method of claim 34, wherein the inhibitor of the β-catenin/TCF signaling pathway targets TCF-4, ß-catenin, or c-myc.

38. (Withdrawn) The method of claim 17, further comprising administering to the subject a COX-2 inhibitor.

39.-40. (Canceled)

41. (Withdrawn) The method of claim 17, further comprising administering to the subject a Notch signaling pathway agonist.

42.-45. (Canceled)

46. (Withdrawn/Currently amended) A method of inhibiting Prox-1 function in a ~~mammalian~~ human subject having a colon cancer characterized by Prox-1 overexpression in cells, comprising the step of administering to said ~~mammalian~~ human subject a composition, said composition comprising a compound effective to inhibit Prox-1 function in cells.

47.-67. (Canceled)

68. (Withdrawn) The method of claim 17, wherein the molecule comprises a compound comprising a nucleic acid 8 to 50 nucleotides in length, wherein said compound specifically hybridizes with a polynucleotide encoding Prox-1, or hybridizes to the complement of the polynucleotide, and inhibits the expression of Prox-1 when introduced into a cell that expresses Prox-1.

69. (Canceled)

70. (Withdrawn) The method of claim 22, wherein the antisense oligonucleotide has a sequence complementary to a fragment of SEQ ID NO: 1.

71. (Withdrawn) The method of claim 70, wherein the fragment of SEQ ID NO: 1 comprises a promoter or other control region, an exon, an intron, or an exon-intron boundary.

72. (Withdrawn) The method of claim 70, wherein the fragment of SEQ ID NO: 1 comprises an exon-intron splice junction.

73. (Withdrawn) The method of claim 70, wherein the fragment of SEQ ID NO: 1 comprises a region within 50-200 bases of an exon-intron splice junction.

74. (Withdrawn) The method of claim 17, wherein the molecule comprises an inhibitor of DNA methyltransferases, thereby inhibiting Prox-1 expression.

75. (Withdrawn) The method according to claim 74, wherein the inhibitor of DNA methyltransferases is 5-aza-2'-deoxycytidine.

76. (Withdrawn) The method according to claim 22, further comprising administering to the subject an inhibitor of DNA methyltransferases.

77.-78. (Canceled)

79. (Currently amended) The method according to claim 1, ~~wherein the mammalian subject is human, and~~ wherein the measuring step indicates that the human subject has elevated Prox-1 expression in colon tissue, and the screening step ~~method further~~ comprises diagnosing the human subject as having colon cancer ~~with respect to a cancerous condition of the colon, wherein increased Prox-1 expression or activity in the colon tissue is indicative of a cancerous condition~~.

80-81. (Canceled)

82. (Withdrawn/Currently amended) A method of selecting patients for therapy with a Prox-1 inhibitor comprising: (a) screening a colon tissue sample ~~cancer~~ from a ~~mammalian~~ human subject for elevated Prox-1 expression compared to the level of Prox-1 expression in a healthy colon tissue sample, wherein elevated Prox-1 expression in the colon tissue sample correlates with the presence of colon cancer cells; and (b) selecting for treatment with a Prox-1 inhibitor a ~~mammalian~~ human subject identified according to (a) as having elevated Prox-1 expression in colon cancer cells.

83. (Canceled)

84. (Withdrawn/Currently amended) A method according to claim 83, further comprising a step, prior to said measuring step, of obtaining a biological sample comprising colon tissue from a ~~mammalian~~ human subject.

85. (Withdrawn/Currently amended) The method of claim 82, further comprising administering to a ~~mammalian~~ human subject identified as having colon cancer with elevated Prox-1 expression a Prox-1 inhibitor selected from the group consisting of: an antisense oligonucleotide that inhibits Prox-1 expression; micro-RNA that inhibits Prox-1 expression; short interfering RNA (siRNA) that inhibits Prox-1 expression; short hairpin RNA (shRNA) that inhibits Prox-1 expression; a zinc finger protein that inhibits Prox-1

expression; a dominant negative form of Prox-1 protein, and an expression vector containing a nucleotide sequence encoding the dominant negative Prox-1 protein.

86. (New) A method of screening colon tissue for colon cancer, said method comprising:

measuring (prospero homeobox protein 1) Prox-1 expression in a biological sample that comprises colon tissue from a human subject, and

screening for colon cancer from the measuring of the Prox-1 expression or activity, wherein Prox-1 expression in the colon tissue in an amount comparable to Prox-1 expression or activity in a colon cancer tissue sample correlates with the presence of colon cancer in colon tissue.

87. (New) The method according to claim 86, wherein the measuring comprises measuring Prox-1 expression in the colon tissue.

88. (New) The method according to claim 86, wherein the measuring comprises measuring Prox-1 protein in the biological sample.

89. (New) The method of claim 88, wherein the measuring comprises contacting the colon tissue with a Prox-1 antibody or antigen-binding fragment thereof.

90. (New) The method of claim 86, wherein the measuring comprises measuring Prox-1 mRNA in the colon tissue.

91. (New) The method of claim 90, wherein the measuring comprises *in situ* hybridization to measure Prox-1 mRNA in the colon sample.

92. (New) The method according to claim 86, wherein the measuring step indicates that the human subject has elevated Prox-1 expression in colon tissue, and the screen step comprises diagnosing the human subject as having colon cancer.